



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

JUN 21 2016

CERTIFIED MAIL 7007 2680 0000 3272 0231  
RETURN RECEIPT REQUESTED

Mr. Hardeep Anand, P.E.  
Deputy Director  
Capital Improvement Program  
Miami-Dade Water and Sewer Department  
Miami-Dade County  
3071 SW 38<sup>th</sup> Avenue  
Miami, Florida 33146

Re: Consent Decree (Case: No.: 1:12-cv-24400-FAM)  
Reference DOJ Case No.: 90-5-1-1-4022  
Section VI – Gravity Sewer System Operations and Maintenance Program, Paragraph 19(e)

Dear Mr. Anand:

The United States Environmental Protection Agency Region 4 and the Florida Department of Environmental Protection (FDEP) are in receipt of Miami-Dade County's (Miami-Dade) February 6, 2015, submittal of the Gravity Sewer System Operations and Maintenance Program (GSSOMP) as required by Paragraph 19.(e). of the above-referenced Consent Decree (CD). The EPA and FDEP appreciate the information provided during our December 11, 2015, conference call in which we discussed this submittal. As a part of our ongoing review of this submittal and before we make a decision regarding its acceptability, the EPA and FDEP are hereby requesting Miami-Dade to provide additional information in response to the following questions and/or comments.

Comments on GSSOMP submitted 2/6/2015

1. Paragraph 19.(e).(i). of the CD requires that the GSSOMP include written preventative operations and maintenance schedules and procedures which shall be scheduled appropriately. The GSSOMP does not provide any details to address this requirement for gravity sewers outside of the Wellfield Protection Areas (WPA). In addition, the GSSOMP states that (Section 5 (page 5-1)): "When the resources recommended by the GSSOMP become available, the WWCTLD [Wastewater Collection and Transmission Line Division] will add a concurrent and parallel cleaning and inspection program for the remaining three-quarters of the GSS [Gravity Sewer System] on a 10-year cycle." These resources should be used immediately and as they are made available, not waiting upon a future unknown date.

2. Paragraph 19.(e).(ii). of the CD requires that the GSSOMP include an engineering evaluation of potential sulfide and corrosion control options and a summary report of findings. The submitted GSSOMP states that this evaluation will not start until 2-years after GSSOMP approval by the EPA and FDEP, and after financial resources are allocated. This time period appears excessive. A summary of the

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existing program and its effectiveness, with any recommendations for improvements, should be able to be accomplished very quickly. A revised/updated evaluation and report could be done at a later time.

3. Paragraph 19.(e).(iii). of the CD requires that the GSSOMP include prioritization for evaluating the Gravity Sewers based upon the size of the pipe, location of SSOs, community input or other criteria. There is a list of Prioritization Criteria in the GSSOMP. However, it appears each criteria is given equal weight. Miami-Dade should consider whether each criteria should be given a specific weighted prioritization number as some of the items may need to be weighted differently.

4. Paragraph 19.(e).(iv). and (v). of the CD requires that the GSSOMP include inspection of Gravity Sewers, manholes, and inverted siphon easements, including inspection of creek crossings, canal crossings, stream bank encroachment toward Gravity Sewers, manholes and inverted siphons, and easement accessibility and develop and implement a schedule for maintenance of easements. Procedures for the inspection and maintenance of easements in the submittal do not appear to be adequate, being limited to whatever evidence of SSOs is observed and whatever action is needed to access the gravity sewer system during operation and maintenance (O&M) activities. Miami-Dade claims customer relations and the high proportion of private residential easements with manmade structure encroachments as reasons to not have a proactive program. Easement inspections should, at a minimum, explicitly be part of every 5-year (for gravity sewers within the WPAs) or 10-year inspection (for gravity sewers outside the WPAs) and should not be limited to just looking for evidence of actual SSOs. Easement maintenance should, at a minimum, be required to be done whenever access reduction is found. Maintenance could be done by Miami-Dade or be required to be done by the property owner.

5. Paragraph 19.(e).(vi). of the CD requires that the GSSOMP include a staffing and funding plan sufficient in structure, skills, numbers and funding to allow completion of the O&M activities required by the GSSOMP. The submitted GSSOMP includes a list of job titles with job descriptions. No analysis of staffing needs is provided in the submittal. The staffing appears to have only six supervisors covering 171 employees. That equates to approximately one supervisor for every 28 workers. Too few supervisors of field personnel could cause inefficient work to be performed; thus, a staffing evaluation is needed. In addition, there is only one engineering staff member (qualification of minimum 2-years of experience). Miami-Dade appears to just put the maintenance of gravity sewer piping on a time schedule instead of including other criteria that could be used to prioritize. The data developed by the inspection and maintenance staff is being evaluated by 4 staff members with only minimal technical education. Thus, it appears these staff members are for data entry instead of data evaluation. Data evaluation could eliminate costly unneeded inspections, cleaning, TV and/or grouting activities.

6. Paragraph 19.(e).(vii). Of the CD requires that the GSSOMP include data attributes for Miami-Dade's mapping (GIS) program allowing program data to be compared in the forthcoming Information Management System (IMS) against other pertinent data such as the occurrence of SSOs. The GSSOMP appears to be a proposed overlay (layer) for the GIS system. How will Miami-Dade management utilize this information to schedule needed work and eliminate un-needed work?

7. Paragraph 19.(e).(viii). of the CD requires that the GSSOMP include an inventory management system. The inventory control system describes four locations where parts and equipment held by Miami-Dade Water and Sewer Department (WASD) are stored. Equipment is listed and assigned to

specific work units and storage sites. Spare parts are listed and the location of each item is tracked via a bar code system. Contracts with large diameter pipe (> 36 inch diameter pipe) suppliers are mentioned in general terms, with no reference to how to identify the specific suppliers or how to obtain the pipe in an emergency. Streamlined procedures for emergency access to parts and equipment should be established and put in writing, with locations of spare parts and equipment held by other entities and who controls them. There should be a means to ensure that parts and equipment held by other County Departments or contractors is immediately available for use, without procedural or access delays.

In addition, the inventory control system describes how, when the minimum allowable inventory threshold is reached, the computer system notifies the Stores Division of the WASD of the need to reorder. There should be a means to ensure prompt acquisition of depleted parts, tools, supplies and equipment, without procedural or other delays or deferrals. All divisions, sections, approval authorities, etc. must make such acquisition a high priority to avoid delays.

8. Paragraph 19.(e).(ix). of the CD requires that the GSSOMP include reports that list equipment problems and the status of work orders generated during the prior Month. The GSSOMP lists several sources of information to determine if work is either planned/preventative or not planned/reactive. Duplication and/or overlooking needed work could result from these multiple data sources. In addition, Miami-Dade appears to be relying on institutional knowledge to schedule work. With the planned retirement of a significant number of workers with that institutional knowledge, Miami-Dade should develop a workable program to complete all O&M work.

9. In at least 7 places, the GSSOMP states that various things will be implemented when additional resources are allocated, referring to additional staff, equipment, and/or materials proposed for next year's budget and beyond. Timing of additional resource allocation is not an acceptable basis for determining the implementation schedule. Rather, the implementation schedule should drive resource allocation. Miami-Dade shall provide a schedule for GSSOMP implementation and assurance of timely resource allocation to meet that schedule by March 31, 2016.

10. In at least 6 places, the GSSOMP states that various components will be implemented after the required IMS (CD Paragraph 19.(c).) has been implemented. The IMS Program was submitted in December 2015. The time for IMS development and implementation is unknown, as it is for the subsequent Geographic Information System (GIS) tool. Some items, such as Prioritization, may, therefore, not be implemented for several years. Miami-Dade shall provide an overall CMOM Programs implementation schedule by March 31, 2016, as well as a more detailed implementation schedule for the GSSOMP.

11. The GSSOMP repeatedly refers to being an interim plan, that is, the initial part of a phased plan. The expected duration of the "interim" period is not described (except for in Section 11 (Planned Staffing and Funding Plan) which lists it as a rolling 5-year period). The phased implementation approach makes supplements to the GSSOMP necessary to complete the requirements of Paragraph 19.(e). as implementation progresses beyond the initial phase. Miami-Dade shall provide a schedule for submittal of periodic supplements to the GSSOMP and a more definite schedule for full development and implementation of the GSSOMP by March 31, 2016.

12. Table 01.2 contains the Gravity Sewer assets by pipe material. It shows the majority (87.1%) of the pipe material as "Not Determined." All of the Gravity Sewers have been inspected and/or televised many times over the last 20-years. The key to proper O&M is to use the inspections to develop data for planning future O&M needs and/or schedules. The material helps establish the useful life of the asset. This lack of data on pipe material shows a lack of personnel to manage the massive amount of information generated by Miami-Dade's numerous data sources. Please include details on how Miami-Dade will manage and use data collected during future inspections if the pipe material is truly unknown.

13. The level of service for inverted siphons of 20 percent inspected and cleaned in the submittal appears to be inadequate. The FDEP recommends a minimum of a 3-year cycle for all of the inverted siphons to be inspected and cleaned. If the inspection of an inverted siphon can be used to determine if the inverted siphon needs to be cleaned, the level of service for cleaning can be revised to as need basis (e.g. consider annual inspections and then cleaning on as-needed basis based on the inspection(s)). If the only way to inspect the inverted siphons is to clean the inverted siphons, cleaning and inspection should be combined.

14. The purpose of inspections is to determine what maintenance is needed and when (e.g. determine whether or not cleaning or other maintenance is needed). The GSSOMP appears to show that inspections are not being used to determine the need for cleaning or other maintenance activity(ies). If Miami-Dade is going to clean the same sewers it inspects, the inspection may be excessive or duplicative work. Inspections should be used to determine what maintenance is needed for that specific asset and when it that maintenance is needed. For example: Miami-Dade staff inspects a manhole. Based on the inspection, Miami-Dade can determine if cleaning is needed and, if not, when the next inspection should be performed. Another example for gravity mains:

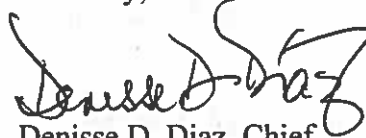
a. The initial step in inspection of a gravity main is to lamp the line. If the lamping shows clean pipe with no or minimal Infiltration/Inflow (I/I), the inspection is complete and no cleaning or CCTV is needed. Subsequently, WASD should schedule the next inspection/lamping (e.g. in 3-years). If future inspections show the same conditions, extend the schedule for the subsequent lamping (e.g. in 5-years).

b. If the lamping shows the need for cleaning, schedule the cleaning. After cleaning the gravity sewer pipe segment, establish the amount of material cleaned from the line segment. Then establish a schedule for the next lamping (e.g. 7-years for little material, 5-years for average material and 3-years for heavy material). Each subsequent cleaning should consider the previous amount collected. Eventually, Miami-Dade should have a schedule where an average amount of material is removed. During the cleaning, Miami-Dade should evaluate the need for CCTV of the pipe segment. If, during the cleaning, there is no leakage found and the collected material did not include soils/sand which appear to leak into the pipe from the ground through defects in the pipe and the lamping did not show offsets in the pipe, Miami-Dade can determine no CCTV of that pipe section is needed at that time. The evaluation should consider the age and material of the pipe, as well as historical data (e.g. the pipe line was previously slip lined with continuous liner).

c. This cycle continues until all potential work has been determined to be needed, delayed or not needed and when such work will be completed.

Please respond in writing to the above questions and/or comments within thirty (30) days of receipt of this letter. Miami-Dade should be prepared to incorporate any necessary changes to the GSSOMP as a result of the above questions and/or comments upon the EPA and FDEP's review of your response and final approval of the submittal. If you should have any questions regarding this matter, please contact Mr. Brad Ammons of the EPA at (404) 562-9769 or via email at [ammons.brad@epa.gov](mailto:ammons.brad@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Denisse D. Diaz". The signature is fluid and cursive, with the first name being the most prominent.

Denisse D. Diaz, Chief  
NPDES Permitting and Enforcement Branch  
Water Protection Division

cc: See attached Mailing List

**Mailing List**

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